

## Fastening and Framing

Thickness	Framing Spacing	Panel Orientation	Fastener Spacing – Wood Framing <sup>1</sup>	Fastener Spacing – Metal Framing <sup>1</sup>
5/8" (15.9 mm)	24" (610 mm) o.c. max <sup>2</sup>	Parallel <sup>2</sup> or Perpendicular	8" (203 mm) o.c. field <sup>3</sup> & perimeter	8" (203 mm) o.c. along framing

1. Fire-rated assemblies may require additional fasteners, see specific assembly details.
2. For racking strength resistance, apply panel edges parallel with framing spaced a maximum of 16" (406 mm) off center (o.c.) for both 1/2" (12.7 mm) and 5/8" (15.9 mm) DensElement™ Barrier System.
3. Fastener spacing around the perimeter of the wall and along intermediate vertical framing members. To meet the racking shear strength listed in the physical properties table, fastener spacing is 4" (102 mm) o.c. around the perimeter of each panel and 8" (203 mm) o.c. along vertical framing members.

Fastener*	Length 5/8" (15.9 mm) Thick Sheathing 1-1/4" (32 mm)	Description	Application
	1-1/4" (32 mm)	Bugle head fine thread, corrosion-resistant drill point drywall screw	DensElement Barrier System to heavy-gauge metal framing (18 gauge or thicker)
	1-5/8" (41 mm)	Bugle head fine thread, corrosion-resistant sharp point drywall screw	DensElement Barrier System to light-gauge metal framing furring (20-25 gauge)
	1-1/4" (32 mm) metal 1-5/8" (41 mm) wood	Bugle head, rust-resistant, coarse thread sharp point screw	DensElement Barrier System to wood framing
	1-3/4" (45 mm)	Wafer head, corrosion-resistant screws, drill or sharp point	DensElement Barrier System to heavy-gauge or light-gauge, metal or wood framing
		11-gauge, galvanized nail	DensElement Barrier System to wood framing

\*For screws, meet or exceed ASTM C1002 or C954. Contact fastener manufacturer for correct amount of corrosion resistance.

## Negative Uniform Wind Load

### 5/8" (15.9 mm) DensElement™ Sheathing Horizontally Applied

Stud Spacing, In./O.C. (mm)	Screws, In./O.C. (mm)	Average load, PSF* (kPa)
16 (406)	8 (203)	131 (3.27)
16 (406)	6 (152)	158 (7.56)
16 (406)	4 (102)	193 (9.24)
12 (305)	8 (203)	170 (8.14)
12 (305)	6 (152)	212 (10.15)
12 (305)	4 (102)	261 (12.50)
8 (203)	8 (203)	212 (10.15)
8 (203)	6 (152)	318 (10.44)
8 (203)	4 (102)	398 (19.06)

NOTE: Apply DensElement Barrier System to appropriately engineered framing system. Tested applied to 6" (152 mm) x 1-5/8" (41 mm) 18-gauge (43 mils) steel studs using #6 1-1/4" (32 mm) bugle head screws. Other stud sizes may be suitable.

Source: Tested in accordance with ASTM E330 Architectural Testing, Inc., an Intertek company.

\*Apply appropriate safety factor from the design method used to calculate design load.

### 5/8" (15.9 mm) DensElement Sheathing Vertically or Horizontally Applied

Thickness Inches (mm)	Board Orientation	Stud Spacing in. o.c. (mm)	Ultimate Load PSF* (kPa)
5/8" (15.9)	Vertical	24 (610)	68 (3.26)
5/8" (15.9)	Horizontal	24 (610)	85 (4.07)
5/8" (15.9)	Vertical	16 (406)	92 (4.40)

Source: TPI Report #89-047; wind load per ASTM E330 (bugle head screws 8" (203 mm) o.c.).

\*Apply appropriate safety factor from the design method used to calculate design load.